

# Homework 6: Logical Operators

CS 1323 Fall 2023

Name: \_\_\_\_\_

Student ID (usually 112-XXX-XXXX or 113-XXX-XXXX): \_\_\_\_\_

1. (15 points; 3 points each part) Given the variable assignments below, is each logical expression true or false? If the statement is not legal in Java, say so. **Show your work step by step. Answers alone will not receive credit since they can be calculated by eclipse. If a logical operator shortcuts, say so.**

int little = 6;

int big = 2;

int size1 = 5;

int size2 = 9;

a) (little > big) && (size2 > big)

b) size1 < size2 || big < little && size2 == big

c) ! little < big

d) little < size1 || little < size2 || little > big

e) 0 <= size1 <= 10

2. (5 points; 3 points each for a) and 2 points for b)) Translate each statement below into a boolean expression that is legal in Java. Use the given variable. Pay careful attention to boundary conditions (e.g. < versus <=). **Make your expressions as clear and simple to understand as possible, using DeMorgan's Law if necessary.**

int percent;

- a) percent is either odd and between 90 and 100 or percent is even and between 80 and 90.

- b) percent is not between 0 and 100 (inclusive)